

Cleaning Up the Lower Passaic River

An Overview of EPA's Proposal for the Lower Eight Miles

THE PASSAIC RIVER'S POLLUTED PAST

A century of industrialization and development throughout the Passaic River watershed have left behind toxic muck on the bottom and banks of the Passaic River. From Newark Bay to the Dundee Dam in Garfield, New Jersey, a section of the river referred to as the Lower Passaic River, the sediment is severely contaminated with dioxins, polychlorinated biphenyls (PCBs), mercury, lead and other metals, as well as pesticides and other harmful chemicals. Contaminated sediment in the river bottom poses a significant threat to people's health and the health of wildlife that live in and along the river. The primary risks are from eating contaminated fish and shellfish from the river.

The majority of the contamination is located in the lower eight miles of the river, where there is up to 15 feet of

A cubic yard is about the size of a dishwasher.

accumulated sediment totaling 9.7 million cubic yards (a cubic yard is about the size of a dishwasher) that spans bank-to-bank along the river bottom. The sediment contamination found here is highly concentrated,

persistent and continues to move as the river flows, adding to the pollution in the rest of the river, Newark Bay and beyond.

THE PROPOSAL TO CLEAN THE PASSAIC

The EPA conducted a multi-year study of an eight mile section of the Lower Passaic River. The study, referred to as the Focused Feasibility Study, evaluated three cleanup options to address contaminated sediment in this area of the river, as well as a fourth option of taking no action. A larger study of the entire 17-mile stretch of the Lower Passaic River is ongoing.

Both the cleanup proposal for the lower eight miles and the comprehensive 17-mile study of the Lower Passaic River are part of a federal government cleanup of the Diamond Alkali Superfund site located at 80-120 Lister Avenue in Newark, New Jersey.

On April 11, 2014, the EPA proposed a cleanup plan for the lower eight miles of the river. The proposed plan was released for public review and comment. Of the cleanup alternatives evaluated, the EPA is proposing "Capping with Dredging for Flooding & Navigation" with "Off-Site Disposal of Dredged Materials", described in the Focused Feasibility Study and Proposed Plan as "Alternative 3 with Dredged Materials Management Scenario B." These documents and the Remedial Investigation report, which details the nature and extent of contamination in the lower eight miles, are available in the information repositories and on the project website: <http://www.ourpassaic.org/>

CAPPING WITH DREDGING FOR FLOODING & NAVIGATION WITH OFF-SITE DISPOSAL OF DREDGED MATERIALS

Under this cleanup plan:

- 4.3 million cubic yards of contaminated sediment (enough to fill Giants Stadium two times) would be removed, bank-to-bank, by dredging the river bottom from Newark Bay to the Belleville/Newark border. This would result in the permanent removal from the environment of nearly 18 pounds of highly toxic and persistent dioxin (2,3,7,8-TCDD), more than 35,000 pounds of mercury, more than 15,000 pounds of PCBs and nearly 2,000 pounds of DDT (a pesticide).
- Sediment would be dewatered locally and prepared for transport by rail for incineration and/or disposal in landfills.
- 5.4 million cubic yards of contaminated sediment would remain in the river bottom protected by an engineered cap, effectively eliminating the movement of sediment and its availability to contaminate the food chain. The engineered cap (a physical barrier constructed primarily of sand and stone) would be placed over the dredged areas bank-to-bank to protect against erosion or other physical disturbances. The cap would not contribute to additional flooding and would be placed to accommodate the ongoing and projected future use of the federal navigation channel in the 2.2 miles of the river closest to Newark Bay.

- Despite fish and shellfish advisories warning against eating local fish and shellfish, some people ignore the advisories or are unaware of them and catch and eat local fish and crab out of cultural practice or to put food on the table for their families. The EPA's cleanup proposal would significantly decrease cancer risks and non-cancer health hazards to people who eat fish and shellfish from the lower eight miles by: (1) reducing the concentrations of the contaminants in shallow sediment in the lower eight miles that might otherwise be absorbed by worms, which might in turn be eaten by fish, and (2) thereby keeping the contaminants from moving up the food chain where they can enter people's diets.
- Risks to wildlife would also be substantially reduced by lowering the concentrations of the contaminants in sediment in the lower eight miles.
- After project completion, there would be a reduction in the movement of the contaminated sediment from the lower eight miles to other parts of the river and to Newark Bay and beyond.
- Long-term monitoring and maintenance of the remedy would be conducted to ensure stability and integrity of the engineered cap and to determine when cleanup goals are met for the fish and sediment.

DREDGING THE LOWER PASSAIC

The cleanup option preferred by the EPA includes:

- In River Mile 2.2 to River Mile 8.3:
 - » Installing an engineered cap, bank-to-bank.
 - » Before the cap is installed, dredging enough sediment so that the cap will not cause any additional flooding.
- In River Mile 0 (where the river meets Newark Bay) to River Mile 2.2:
 - » Dredging the 300-foot wide federal navigation channel to accommodate the current and reasonably anticipated future use from River Mile 0 to River Mile 2.2.
 - » Filling the dredged area with two feet of sand in the navigation channel from Newark Bay (River Mile 0) to River Mile 1.2.
 - » Installing an engineered cap bank-to-bank from River Mile 1.2 to River Mile 2.2 and in areas outside of the navigation channel from River Mile 1.2 to Newark Bay.
- Reconstructing dredged mudflats to their original grade with an engineered cap that would consist of one foot of sand covered by one foot of material that will restore the mudflat habitat, so the water-dwelling creatures can return.

Disposal of Contaminated Sediment & Other Dredged Materials

The approximately 4.3 million cubic yards of dredged sediment would be disposed of in the following way:

- Dredged materials would be barged to a land-based sediment processing facility in the vicinity of the Lower Passaic River/Newark Bay shorelines for debris screening, sand separation and active dewatering using filter presses.
- Water generated by the sediment dewatering process would be processed through a water treatment plant to meet New Jersey water quality standards and discharged to the Lower Passaic River or Newark Bay.
- Non-hazardous sand separated during processing would be disposed of at a landfill or beneficially used.
- Dewatered, contaminated dredged materials would be transported by rail to incinerators and landfills in the U.S. or Canada for disposal. Up to 7% of dredged sediment may require incineration at out-of-state facilities in the U.S. or Canada. The ash generated by incineration would be disposed of in a regulated landfill. Approximately 93% of the dredged sediment may be sent to licensed, permitted landfills in the U.S. or Canada that are designed to accept the contaminated sediment.
- Incineration of a small portion of the dredged sediment may be necessary if it is characterized under federal standards as "hazardous" and contains elevated concentrations of dioxin. At this time, incineration is the only technology known to be able to treat the most highly concentrated dioxin-contaminated sediment to the applicable federal standards.

Long Term Monitoring & Maintenance

During construction, monitoring of water, air and wildlife would be conducted to evaluate whether the cleanup activities are being managed most efficiently to reduce potential releases of contaminants to the environment. In instances in which water or air quality standards are exceeded, the related construction activity would be evaluated and additional protective measures would be implemented. During and after construction, enhanced community outreach would be conducted regarding New Jersey's fish and crab consumption advisories to improve awareness and compliance.

After project completion, frequent monitoring of fish and sediment would be conducted to determine progress toward meeting cleanup goals.

Monitoring and maintenance of the engineered cap would be required both on a regular basis and after significant storms. Controls prohibiting disturbance of the engineered cap by river users would be necessary to maintain cap integrity. A review of site conditions would be conducted at least once every five years, as required by federal law.



PUBLIC INPUT ON THE CLEANUP OPTIONS IS CRITICAL

Community acceptance of the cleanup proposal is one of the nine criteria mandated by law for the EPA to consider when selecting the final cleanup plan. Public input on EPA's cleanup proposal and the other options that were considered is encouraged. The comments that the EPA receives during the public comment period on the proposed plan will be thoroughly considered and responded to in a responsiveness summary. The responsiveness summary will be included in the Record of Decision, which documents the final cleanup plan selected by the EPA.

Public Comment: April 21, 2014 to June 20, 2014

Decisions to be made during the Design Phase of cleanup

- Exact volume of sediment to be dredged
- Dredging technology for removal of sediment (hydraulic or mechanical dredging)
- Sediment processing location within the Newark Bay / Lower Passaic River area
- Rail transportation routes to move dredged materials for treatment and disposal
- Sediment disposal and incineration locations
- Engineered cap thickness and composition

Public Meetings

The EPA will hold three public meetings during the public comment period to present the cleanup proposal and the other options that were considered. The EPA is particularly interested in comments on the choice of dredged material disposal options (whether off-site disposal or disposal in a container at the bottom of Newark Bay is preferable) and on whether shallower depths in the lower 2.2 miles of the river than those proposed in Alternative 3 might still accommodate reasonably anticipated future uses of that section of the river.

May 7, 2014
7 p.m.
Portuguese Sports Club
55 Prospect Street
Newark, New Jersey 07105

May 2014
Kearny, New Jersey
Specific date and location
To Be Determined

June 2014
Belleville, New Jersey
Specific date and location
To Be Determined

Submit comments via mail or email by June 20, 2014 to:



Alice Yeh, Project Manager
U.S. Environmental Protection Agency
290 Broadway, 19th Floor
New York, NY 10007-1866



PassaicLower3MileComments.Region2@epa.gov

Information Resources

<http://www.ourpassaic.org/>
<http://www.epa.gov/region02/superfund/npl/diamondalkali/>
<http://www.epa.gov/region2/passaicriver/>

Information Repositories

The administrative record file, which contains copies of the Proposed Plan and supporting documentation, is available at the following locations:

Newark Public Library
New Jersey Reference Section
5 Washington Street
Newark, New Jersey 07101
Phone: (973) 733-7784
Hours: Mon., Fri., Sat.: 9 a.m. – 5:15 p.m.
Tues., Wed., Thurs.: 9 a.m. – 8:15 p.m.

Elizabeth Public Library
11 South Broad Street
Elizabeth, New Jersey 07202
Phone: (908) 354-6060
Hours: Mon. – Thurs.: 9 a.m. – 9 p.m.
Fri.: 10 a.m. – 9 p.m., Sat.: 9 a.m. – 5 p.m.

U.S. EPA, Region 2
Superfund Records Center
290 Broadway, 18th Floor
New York, NY 10007-1866
Phone: (212) 637-4308
Hours: Mon. – Fri., 9 a.m. – 5 p.m.

EPA Project Contacts

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